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Prof. Agassiz' party in Brazil, starts this month to explore western Iowa, both to collect and study the animals and fossils of that little-known region. If successful in this field, he intends to push on, another season, to the Rocky Mountains, and collect in that region.

CORRESPONDENCE.

G. H. K.—The most brief and comprehensive Manuals of Taxidermy, or the art of preparing specimens of Natural History for the cabinet, are those published by the Smithsonian Institution, Washington, D. C., in pamphlet form, especially the Directions for collecting, preserving, and transporting specimens of Natural History.

J. T. G., Massachusetts.—Among the best works from which to gain a general knowledge of Natural History are Prof. Asa Gray's Botanical Series, embracing the following: —

How Plants Grow.

First Lessons in Botany.

Manual of Botany of the United States. Illustrated. 8vo. Published by Messrs. Ivison & Phinney, New York.

Agassiz & Gould's Principles of Zoölogy. Gould & Lincoln, Boston.

Mind in Nature. By H. J. Clark. Appleton & Co., New York, 1866.

Tenney's Zoölogy for Schools. C. Scribner, New York.

Harris's Insects Injurious to Vegetation. Nichols & Noyes, Boston.

Westwood's Classification of Insects. London. 2 vols. 8vo.

Dana's Manual of Geology. T. Bliss & Co., Philadelphia. 8vo.

Hugh Miller's Popular Geology, and other works, published by Gould & Lincoln, Boston.

Prof. A. Guyot's Series on Physical Geography, with his Physical Maps. C. Scribner, New York. Earth and Man. Gould & Lincoln, Boston. 12mo.

NATURAL HISTORY CALENDAR.

Ornithological Calendar for May.—The first half of May witnesses the grand culmination of the vernal migration; more species arriving between May 1st and 20th than during the rest of Spring; and probably at no period in the year are our woods so densely populated as now, when countless numbers, on their way north, spend a few days with us in their passage. Few arrive after the 15th or 20th, though in some seasons there are many representatives of species, which breed farther north, remaining till the close of the month.

1st to 7th.—The Barn Swallow, Chimney Swift, Brown Thrush, Cat Bird, Towhee Bunting, or Chewink, Least Flycatcher, Warbling Vireo, Black and White Creeper, and Whippoorwill become common. The Eaves, or Cliff, and Bank Swallows, King Bird, Golden-crowned and Water Thrushes, the Black-throated Green, Prairie, Blue Yellow-backed and Nashville Warblers; the House Wren and Marsh Wrens (*Cistothorus palustris* and C. *stellaris*), and the Summer Yellow Bird, or Yellow Warbler, begin to appear.

7th to 14th.—All the preceding become abundant, while the Bobolink, Baltimore and Orchard Orioles, Rose-breasted Grosbeak, Scarlet Tanager, Night Hawk, Maryland Yellow-throat, Veery, or Wilson's Thrush; Redstart, the Spotted Canada, Black-capped, Black-burnian, Bay-breasted, Black-throated Blue, Chestnut-sided, and Cape May Warblers; the Black-billed and Yellow-billed Cuckoos; the Red-eyed, White-eyed, and Yellow-throated Vireos; the Indigo Bird, Swainson's Thrush; the Acadian, Great-crested, Traill's, and Olive-sided Flycatchers; Henslow's Bunting, Red-headed Woodpecker, and Humming Bird arrive. The Tree and White-throated Sparrows, Hermit Thrush, and Ruby-crowned Kinglet retire northwards, or to the mountainous districts.

14th to 21st.—Wood Pewee, Yellow-breasted Chat, and Black Poll Warbler arrive. The woods and thickets, as well as the orchards and shrubbery of the garden, swarm with *Dendroicæ* or Wood Warblers, and with other species of *Sylvicolidæ* and Flycatchers.

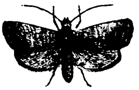
21st to 31st.—Towards the close of the month, the various species of Warblers and their allies, that pass farther north to breed, retire thither and to the highlands. The Black Poll Warbler and Swainson's Thrush are (a few stragglers of other species still remaining) the only birds which remain in numbers, that pass north of central New England to breed.

All the summer visitors and vernal passengers have now arrived. Many of the early breeders, as the Blue Bird, Pewee, Robin, Song and Field Sparrows, etc., have, at the close of the month, nearly full-fledged young; occasionally the first brood takes wing. Others, as the Chewink, Cat Bird, Yellow-winged Sparrow, Red-winged Blackbird, Meadow Lark, Brown Thrush, Blue Jay, Chickadee, Swallows, Whippoorwill, etc., have commenced incubation; the Bobolink, Baltimore, Warbling, and other Vireos, and several Flycatchers and Warblers, have either begun building, or are pairing and selecting nest sites. In short, with one or two exceptions, all the birds have ceased roving, and choosing their summer homes, have entered upon the important duties attending the reproductive season.—J. A. A.

THE INSECTS OF MAY.—During this month there is great activity among the insects. As the flowers bloom and the leaves appear, multitudes wake from their long winter sleep, and during this month pass through the remainder of their transformations, and prepare for the summer campaign. Most insects hybernate in the chrysalis, or pupa, state, while many winter in the caterpillar or larva state, such as the larvæ of several Noctuidæ and the "yellow-bear," and other caterpillars of Arctia and its allies; while many insects hybernate in the adult or imago form, either as beetles, butterflies, or certain species of bees.

It is well known that the Queen Humble Bee winters under the moss, or in her old nest. During the present month her rovings seem to have a more definite object, and she seeks some deserted mouse-nest, or hollow in a tree or stump, and there stows away her pellets of pollen, containing two or three eggs apiece, which, late in the summer, are to form the nucleus of a well-appointed colony. The Carpenter Bees, Ceratina and Xylocopa, the latter of which is found in abundance south of New England, is busy in refitting and tunnelling out the hollows of the grape; while the Ceratina hollows out the stem of the elder, or blackberry. This little upholsterer bee carpets her honey-tight apartment, storing it with food for her young, and later in the season, in June, several of these cartridge-like cells, whose silken walls resemble the finest and most delicate parchment, may be found in the hollow stems of these plants.* The Mason Bee (*Osmia*) places her nest in a more exposed site, building her earthen cells of pellets of moistened mud, either situated under a stone, or in some more sheltered place, for instance in a deserted oak-gall, ranging half a dozen of them side by side along the vault of this strange domicile. Meanwhile their more lowly relatives, the Andrena and Halictus bees, are engaged in tunnelling the side of some sunny bank or path, running long galleries underground, sometimes for a foot or more, at the farthest end of which are to be found, in summer, little earthen urn-like cells, in which the grubs live upon the pollen stored up for them in little balls of the size of a pea. Later in the month, the Gall Flies (*Cynips*), those physiological puzzles, sting the leaves of our oaks, maples, and other trees, giving rise to the strange excrescences and multiform deformities which deface the stems and leaves of our most beautiful forest trees.

Fig 1.



The Coddling Moth.
From HARRIS.

We spoke in our last number of the Coddling Moth, of which fruit-growers need to be forewarned, and here give a figure of the moth, so that it cannot be mistaken.

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*We are indebted to Mr. James Angus for the facts regarding the habits of Hylocopa and Ceratina. The cells of *Osmia simillima* Smith, have been found as above described by Mr. F. G. Sanborn.

When the Kalmia, Rhodora, and wild Cherries are in bloom, many of our most beautiful butterflies appear; such are the different species of Lycæna, Thecla, and Argynnis. At this time we have found the rare larva of Melitæa Phæton, clothed in the richest red and velvety black, feeding daintily upon the Hazel Nut, and tender leaves of the Golden Rod. In June, it changes to the chrysalis state, and early in July the butterfly rises from the cold damp bogs, where we have oftenest found it, clad in its rich dress.

Later still, when the Lilac blooms, and farther south the broad-leaved Kalmia, the gaily-colored Humming Bird Moth (*Sesia*), visits the flowers in company with the Swallow-tail Butterfly (*Papilio Turnus*). At twilight, the Hawk-moth, Sphinx, darts noiselessly through our gardens, as soon as the Honeysuckles and Pinks and Lilies are in blossom.

Among the Flies (*Diptera*), Mosquitoes now appear, though they have not yet perhaps strayed far from their native swamps and fens; and their mammoth allies, the Daddy-long-legs (*Tipula*), rise from the fields and mould of our gardens in great numbers.

Of the Beetles (*Coleoptera*), those which feed on leaves now become specially active. The Squash Beetle (*Phyllobrothica vittata*, fig. 2) now attacks the Squash plants before they are fairly up; and the Plumb Weevil (*Conotrachelus nenuphar*, fig. 3, From Harris) will sting the newly-formed fruit, late in the month, or early in June. Many other Weevils now abound, stinging the seeds and fruit, and depositing their eggs just under the skin. So immense are the numbers of insects which fill the air and enliven the fields and woodlands, just as summer comes in, that a bare enumeration of them would overcrowd our pages, and tire the reader.

Fig. 2.

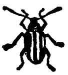
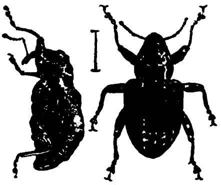


Fig. 3.



A word, however, about our Water Insects. Late in the month the May-fly (*Ephemera*) appears, often rising, in immense numbers, from the surface of pools and sluggish brooks. In Europe, whole clouds of these delicate forms, with their thin white wings, have been known to fall like snow upon the ground, when the peasants gather them up in heaps to enrich their gardens and farms.

The Case Worms, or Caddis Flies, begin now to leave their portable houses, formed of pieces of leaves, or sticks and fine gravel, and fly over the water, resting on the overhanging trees.

A few busy Mosquito Hawks, or Dragon Flies (*Libellula*), herald the coming of the summer brood of these indefatigable friends of the Agriculturist. During their whole life below the waters, these entomological Herods have slain and sucked the blood of myriads of infant mosquitoes and other insects; and now, in their new world above the waters, with still more intensified powers of doing mischief, happily, however, to flies mostly obnoxious to man, they riot in bloodshed and carnage.

This is the season to stock the fresh-water aquarium. Go to the nearest brook, gather a sprig or two of the Water Cress, which spreads so rapidly, a root of the Eel Grass, and plant them in a glass dish or deep jar. Pour in your water, let the sand and sediment settle, and then put in a few Tadpoles, a Newt (Salamander), Snails, (*Limnea*, *Planorbis*, and *Valvata*), Caddis Flies, and Water Beetles, together with the gatherings from a thicket of Eel Grass, or other submerged plants, being rich in the young of various flies, Ephemeras, Dragon-flies, and Water-fleas (*Entomostraca*), which last are beautiful objects for the microscope, and in a few days the occupants will "feel at home," and the aquarium will be swarming with life, affording amusement and occupation for many a dull hour, by day or at night, in watching the marvels of insect transformations, and plant-growth.—A. S. P.

PROCEEDINGS OF SCIENTIFIC SOCIETIES.

BOSTON SOCIETY OF NATURAL HISTORY. *January* 16. Concluded. —Mr. W. W. Bailey read a paper on *Epigæa repens*, the May flower, by Prof. L. W. Bailey, of Fredericton, N. B., in which he mentions finding specimens exhibiting the following peculiarities: Corolla, imperfectly salverform (the petals not thoroughly coherent into a tube, which were not hairy), and apparently not *deciduous;* the stamens reverted into specimens of the ordinary kind more or less united. Some of these showing a transitional form, in having a filament-like base, but no anthers. The pistils were indistinct, and had reverted into petals.

Feb. 6, 1867.—The Secretary read a paper by Dr. S. Kneeland, on a fungoid Parasite, or Caterpillar Fungus, from the Philippine Islands, to which were appended some remarks of Mr. C. J. Sprague, on the probable botanical relations of this fungus.

Dr. J. C. White exhibited, under the microscope, living young of the Guinea, or thread-worm (Filaria Medinensis). He described the form and mode of development of the parent animal, and spoke of what was known of their habits, and their mode of effecting an entrance into the human body during bathing in places where they occurred.

Mr. W. T. Brigham stated that it was generally believed near Cal-